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EXAMINER	
HASAN, SYED Y	

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/079,992	YAP ET AL.	
	Examiner	Art Unit	
	Syed Y. Hasan	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *27 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 02/27/2007 have been fully considered but they are not persuasive.

In re page 9 applicant presents the argument regarding claim 1 that "notifying the completion of receiving a data block does not meet the occupancy criterion" and " there is no consequence if the occupancy criteria are met in the Koshino reference"

Examiner respectfully disagrees. The statement "notifying the completion" implies that there is a finite space and that space is being occupied and notification is a critera that is being met. The consequence of this action is further clarified in Koshino (US 6996326) col 3, lines 34 – 36, clarifying that it "notifies the recording-or-not-recording information whether the received data block is to be recorded in the disk drive". Hence a consequence is being established.

In re page 10 applicant presents the argument regarding claim 1 that "the two computing steps, and the determining steps are not set forth in this passage" and "the steps of computing an initial parameter based on the initial time stamp value and computing a subsequent parameter based on the subsequent time stamp value are not taught or suggested" also "no computing parameters is set forth"

Examiner respectfully disagrees. In this reference a frame data is being compared to a subsequent frame data. Here again in Koshino (US 6996326) col 7, lines 52 – 54, illustrate that "the data recording apparatus of the present embodiment

performs a second recording determination process in which recording–or-not is determined on the basis of predetermined data. This clearly shows a computing parameter.

Applicant further argues that "It appears that column 6 is mainly concerned about a recording is to take place"

Examiner agrees with this statement. Koshino is only concerned with recording. That is why applicant has chosen to combine this reference with Okada (US 5668601) to point out that Okada teaches decoding.

Applicant further argues that "if the parameters do not coincide"

Examiner points out that claim 1 only talks about "determining if the computed initial and subsequent parameters coincide." There is no mention of what will happen if they do not coincide. Hence this argument is not valid.

Applicant also argues that "no teaching of frames is set forth in the OKADA reference"

Examiner respectfully disagrees. Examiner points to OKADA (US 5668601, col 12, lines 28 – 29, illustrate inter-frame coding". Hence Okada does teach frames.

In light of the above arguments, claim 1 is being rejected.

Since claim 1 is rejected, based on the same arguments, claim 14, 27 and 29 are also being rejected.

Since all independent claims are rejected, therefore all dependent claims are also rejected. Hence claims 1 – 30 stand rejected.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 – 8, 10, 14 – 21, 23 and 27 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshino et al (US 6996326) in view of Okada et al (US 5668601)

Regarding claim 1, Koshino et al discloses an audio-video (AV) synchronization process, comprising:

determining whether an occupancy criterion of a buffer storing received audio and video frames has been met (col 3, lines 25 – 27, notifying the completion of receiving a data block to the data recording determining means at each time when the data block in a predetermined unit is stored in the buffer.)

and if so obtaining an initial time stamp value from an initial frame;

obtaining a subsequent time stamp value from a subsequent frame;

computing an initial parameter based on the initial time stamp value;

computing a subsequent parameter based on the subsequent time stamp value;

determining if the computed initial and subsequent parameters coincide, and if so outputting corresponding audio and/or video frames for decoding and display (fig

3, col 6, lines 16 – 19, the procedure of the first recording determination process in the data recording determining block 15 is described below with reference to FIG. 3.) (Furthermore the entire procedure is described in the reference col 6, lines 20 – 50) In addition (col 7, lines 43 – 51, in the present embodiment, it is determined whether the DV frame data is the same as the just previous DV frame data or not by reading out the ATN from the DV frame data. However, any information, such as title time code (TTC), particular to the DV frame data may be used without restriction by the configuration of the above-mentioned embodiment. Here, the TTC is time information from the start of the video information, and has the information of "hour:minute:second:frame" for each frame.)

Koshino et al teaches all of the above except audio and/or video frames for decoding and display

However, Okada et al teaches audio and/or video frames for decoding and display (fig 1, MPEG audio decoder 2 and video decoder 3) and (fig 1, video display 25 and audio display 27)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the audio and/or video frames for decoding and display as taught by Okada et al in the system of Koshino et al in order to decode and display the end product and watch the successful synchronization first hand.

Regarding claims 2 and 15, Koshino et al discloses the process, wherein said initial and subsequent time stamp values are presentation time stamps of initial and subsequent video frames or presentation time stamps of initial and subsequent audio

frames, each of the audio and video frames also including associated audio or video data (col 6, lines 31 – 34, the recording determination is carried out by checking whether the ATN is the same as the ATN of the DV frame data stored just previously, or not.)

Regarding claims 3 and 16, Koshino et al discloses the process, wherein said initial and subsequent parameters are difference values, each computed as a time difference between when the corresponding time stamp is received by a processor and a time where the processor accesses a time from a system timer (col 6, lines 31 – 34, the recording determination is carried out by checking whether the ATN is the same as the ATN of the DV frame data stored just previously, or not.)

Regarding claims 4 and 17, Koshino et al discloses the process, wherein said determining step compares whether the difference value representing the subsequent frame, .DELTA.t.sub.new, is equal to the difference value representing the initial frame, .DELTA.t.sub.old, the coincidence between these difference values representing a valid time stamp of the subsequent frame (col 7, lines 46 – 51, any information, such as title time code (TTC), particular to the DV frame data may be used without restriction by the configuration of the above-mentioned embodiment. Here, the TTC is time information from the start of the video information, and has the information of "hour:minute:second:frame" for each frame.)

Regarding claims 5 and 18, Koshino et al discloses the process, wherein the video frame is decoded for display when the timestamp is valid (rejected based on claim 1 above)

Regarding claim 6 and 19, Koshino et al discloses the process, wherein if the initial and subsequent parameters do not coincide, a recovery process is performed (col 6, lines 47 – 50, when the data recording determining block 15 is determined as disposal frame data, in Step 34, the record data managing block 16 is notified that this DV frame data is recording-inhibited, implying a recovery process being performed)

Regarding claims 7 and 20, Koshino et al discloses the process, wherein if the initial and subsequent parameters do not coincide because the presentation time stamp of the initial frame is corrupted but the corresponding video data is valid, or if a time base at which all presentation time stamps are obtained is changed (col 6, lines 47 – 50, when the data recording determining block 15 is determined as disposal frame data, in Step 34, the record data managing block 16 is notified that this DV frame data is recording- inhibited.)

Koshino et al teaches all of the above except the video frame decoded for display

However, Okada et al teaches the video frame is decoded for display (fig 2, col 9, line 48, MPEG video decoder 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate decoding of the video frame is for display as taught by Okada et al in the system of Koshino et al in order to decode and display the end product and watch the successful synchronization first hand.

Regarding claims 8 and 21, Koshino et al does not disclose the process, wherein, if the initial and subsequent parameters do not coincide because both the presentation time stamp and the corresponding video data of the initial frame are

corrupted, the most recently processed video frame is repeated

However, Okada et al teaches the process, wherein, if the initial and subsequent parameters do not coincide because both the presentation time stamp and the corresponding video data of the initial frame are corrupted, the most recently processed video frame is repeated (col 13, lines 64 – 67, the controller 42 produces one of the control signals S.sub.S, S.sub.n and S.sub.R to control the operational mode of the decode core circuit 23 to skip, decode normally or to repeat)

It would have been obvious to one of ordinary skill in the art at the time of the invention to repeat the most recently processed video frame when both presentation time stamp and the corresponding video data are corrupted as taught by Okada et al in the system of Koshino et al in order to decode and display the end product and watch the successful synchronization.

Regarding claims 10 and 23, Koshino et al does not disclose if the frames are audio frames, parameters representing a computed time are compared to a system time in order to determine if an audio frame is repeated in the process, skipped in the process, or decoded for display.

However, Okada et al teaches the process, wherein if the frames are audio frames, parameters representing a computed time are compared to a system time in order to determine if an audio frame is repeated in the process, skipped in the process, or decoded for display (col 13, lines 61 – 67, controller 42 then produces time stamp V.sub.2 -PTS. A.sub.2 -PTS is generated using the internal delay time (AD+.DELTA.A) from the audio decoder 32. Based on the comparison between the

V.sub.2 -PTS and the value y, the controller 42 produces one of the control signals S.sub.S, S.sub.n and S.sub.R to control the operational mode of the decode core circuit 23 to skip, decode normally or to repeat.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate if the frames are audio frames, parameters representing a computed time are compared to a system time in order to determine if an audio frame is repeated in the process, skipped in the process, or decoded for display as taught by Okada et al in the system of Koshino et al in order to decode and display the end product and watch the successful synchronization.

Regarding claims 14 and 27 – 30

The apparatus claim 14 and method and process claims 27 – 30 are rejected based on claim 1 above.

4. Claims 9 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshino et al (US 6996326) in view of Okada et al (US 5668601) and further in view of Ueda et al (US 6842580)

Regarding claims 9 and 22, the proposed combination of Koshino et al and Okada et al does not disclose the process, wherein the recovery process is performed up to T times, T being a selectable parameter, and wherein if T is exceeded, the recovery process is terminated

However, Ueda et al teaches the process, wherein the recovery process is performed up to T times, T being a selectable parameter, and wherein if T is exceeded, the recovery process is terminated (col 25, lines 5 – 9, a data read operation is

performed in such a manner that a region in which a read error occurred is first subjected to retry processes for recovering from the error; and if the error cannot be solved by such an error recovery the read process is terminated)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the recovery process is performed up to T times, T being a selectable parameter, and wherein if T is exceeded, the recovery process is terminated as taught by Ueda et al in the system of Koshino et al and Okada et al in order for the successful synchronization of video and audio combination.

5. Claims 11 – 13 and 24 - 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshino et al (US 6996326) in view of Okada et al (US 5668601) and further in view of Brewer et al (US 6262777)

Regarding claims 11 and 24, Koshino et al does not disclose the process of if computed time exceeds system time by an audio frame time, the audio frame is repeated.

However, Okada et al teaches the process, wherein if computed time exceeds system time by an audio frame time, the audio frame is repeated (col 13, lines 36 – 38, when A.sub.2 -PTS>V.sub.1 -PTS, the decode core circuit 23 executes the repeat operation.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate computed time exceeds system time by an audio frame time, the audio frame is repeated as taught by Okada et al in the system of Koshino et al in

order to ensure improved synchronization between audio and video output.

The proposed combination of Koshino et al and Okada et al as discussed does not disclose half frame.

However, Brewer et al, teaches half frame (col 3, lines 63 – 67, the first audio frame from the first audiovisual segment is designated as the initial audio frame when a tab error associated with the first audio frame from the first audiovisual segment is less than about half a frame.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate half frame as taught by Brewer et al in the system of Koshino et al in order to assure that no more than about half an audio frame error is produced once two or more audio and video segments are joined.

Regarding claims 12 and 25, Koshino et al does not disclose the process if computed time lags system time by an audio frame time, the audio frame is skipped.

However, Okada et al teaches the process, wherein if computed time lags system time by an audio frame time, the audio frame is skipped (col 13, lines 33 – 35, in the case where the value y is sufficiently smaller than the A.sub.2 -PTS and V.sub.1 -PTS, the decode core circuit 23 executes the skipping operation)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate computed time lags system time by an audio frame time, the audio frame is skipped as taught by Okada et al in the system of Koshino et al in order to ensure improved synchronization between audio and video output

The proposed combination of Koshino et al and Okada et al as discussed does

not disclose half frame.

However, Brewer et al, teaches half frame (col 3, lines 63 – 67, the first audio frame from the first audiovisual segment is designated as the initial audio frame when a tab error associated with the first audio frame from the first audiovisual segment is less than about half a frame.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate half frame as taught by Brewer et al in the system of Koshino et al in order to assure that no more than about half an audio frame error is produced once two or more audio and video segments are joined.

Regarding claims 13 and 26, Koshino et al does not disclose the process if computed time exceeds system time by an audio frame time, or lags system time by an audio frame, the audio frame is decoded for display

However, Okada et al teaches the process, wherein if computed time exceeds system time by audio frame time, or lags system time by an audio frame, the audio frame is decoded for display (col 13, lines 34 – 35, executes the normal operation when A.sub.2 -PTS=V.sub.1 -PTS.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate computed time exceeds system time by audio frame time, or lags system time by an audio frame, the audio frame is decoded for display as taught by Okada et al in the system of Koshino et al in order to ensure improved synchronization between audio and video output.

The proposed combination of Koshino et al and Okada et al as discussed does

not disclose half frame

However, Brewer et al , teaches half frame (col 3, lines 63 – 67, the first audio frame from the first audiovisual segment is designated as the initial audio frame when a tab error associated with the first audio frame from the first audiovisual segment is less than about half a frame.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate half frame as taught by Brewer et al in the system of Koshino et al in order to assure that no more than about half an audio frame error is produced once two or more audio and video segments are joined.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Tanaka (US 6130987) discloses an audio-video synchronous playback apparatus.

Ort (US 5784527) discloses a system and method for error handling during playback of an audio/video data stream.

Moriyama et al (US 5537409) discloses a synchronizing system for time-divided video and audio signals.

Kelly et al (US 6952521) discloses methods and apparatus for editing digital video recordings and recordings made by such methods.

Haddad et al (US 6931071) discloses an apparatus and method for synchronizing video and audio MPEG streams in a video playback device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Y. Hasan whose telephone number is 571-270-1082. The examiner can normally be reached on 9/8/5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.Y.H.
5/14/2007